



Cal/EPA

**California
Regional Water
Quality Control
Board - Santa
Ana Region**

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October 31, 1997

Ms. Carol A. Yuge
Deputy Director
Lockheed Martin Corporation Environmental Safety & Health
Burbank Program Office
2550 N. Hollywood Way, Suite 305
Burbank, CA 91505-1055

**PERCHLORATE WORK PLAN AND SCHEDULE (CLEANUP AND ABATEMENT ORDER
NO. 97-58)**

Dear Ms. Yuge:

We have reviewed the above work plan and schedule submitted on August 15, 1997, prepared by Radian International LLC on behalf of Lockheed Martin Corporation. This work plan and schedule were submitted in response to Item 1 of Cleanup and Abatement Order (CAO) No. 97-58, adopted by the Regional Water Quality Control Board, Santa Ana Region, on July 18, 1997. The objective of this work plan is to obtain the information necessary to develop and implement a remedial action plan for the perchlorate plume. In the Work Plan, Lockheed Martin has proposed to implement the following tasks:

- **Sample Existing Wells for Perchlorate**

Lockheed has already completed this task by sampling approximately 100 wells located in the eastern and central portion of the Bunker Hill Groundwater Basin. The results of this sampling program were documented in a report titled "Groundwater Sampling Data Report Task 3, Subtask 3A" (CAO No. 94-37) and were submitted to the Regional Board on September 15, 1997.

- **Sample Monitoring Wells Proposed to be Installed in the Leading Edge Area of the Plume**

As part of the continuing work being implemented in accordance with CAO NO. 94-37, Lockheed Martin submitted a work plan on August 27, 1997, proposing to install six additional multi-port monitoring wells. I conditionally approved this work plan on October 15, 1997. In order to better define the extent of the leading edge of the perchlorate plume, Lockheed Martin is proposing to sample these proposed wells for perchlorate, in addition to TCE.

- Expand the Water Supply Contingency Plan and Sampling Decision Matrix to Include Perchlorate

In order to monitor the presence of perchlorate in water supply wells, Lockheed Martin is proposing to sample 31 active production wells for perchlorate on a regular basis. This is 26 more wells than are currently being sampled for TCE in accordance with the current Water Supply Contingency Plan (WSCP) which was approved on March 6, 1997. The Work Plan includes a decision matrix that establishes the sampling frequency for each well. Initially, each well will be sampled monthly for the first year. Sampling results are proposed to be submitted to the Regional Board on a monthly basis. In accordance with the decision matrix, if a well exceeds the Provisional Action Level (PAL) of 18 ug/l established by the Department of Health Services (DHS), blending options will be reviewed and, if necessary, a blending plan will be submitted to DHS and the Regional Board.

- Model Perchlorate Migration and Potential Impacts

Lockheed Martin is proposing to utilize existing water quality data to map the current horizontal and vertical extent of the perchlorate plume. In addition, Lockheed Martin is proposing to utilize the MODFLOW/MT3D model to predict the forward simulation of perchlorate movement through 2035. By December 8, 1997, Lockheed Martin is proposing to submit a report on the perchlorate modeling results.

- Review the Applicability of Treatment Technologies

Lockheed Martin has conducted a review of treatment technologies with the potential for removing perchlorate from groundwater, and has determined that there are currently no known technologies that will remove perchlorate from groundwater to below the current PAL. Lockheed Martin is continuing to assess viable technologies and has been approached by several parties interested in developing an effective treatment technology for perchlorate. Lockheed Martin is proposing to submit a report by November 15, 1997, documenting the most recent results of this technology assessment.

- Develop Water Supply Contingency Options for Water Purveyors

Lockheed Martin is proposing to investigate specific options that could be considered for maintaining an acceptable water supply for each water purveyor's system. These options include providing bottled water, increasing production from non-impacted wells, blending, importing water, and any other techniques that may be identified. The actual options selected will depend on the specific situation of each potentially affected water purveyor, and the results of the negotiations to develop individual agreements with each water purveyor. Lockheed Martin is proposing to report the status of these negotiations in quarterly reports, beginning December 15, 1997.

October 31, 1997

- Join the Perchlorate Study Group (PSG)

Lockheed Martin recently joined the PSG, a consortium of industry members working with the United States Air Force (USAF) to address perchlorate toxicity issues. The PSG intends to provide USEPA with an expanded scientifically derived data base to allow development of an accurate and reasonable Reference Dose. Lockheed Martin is proposing to submit quarterly reports to update the Regional Board on the activities and findings of the PSG studies.

The Work Plan and schedule is acceptable and is hereby approved. In accordance with Item 2 of CAO No. 97-58, Lockheed Martin is required to implement the Work Plan pursuant to the approved time schedule. However, I would like to emphasize the need to immediately enter into serious negotiations with each of the water purveyors, especially the City of Riverside, in order to finalize the necessary water supply agreements as soon as possible. It is Lockheed Martin's responsibility to aggressively pursue negotiations in this regard. Board staff will review the various reports that will be submitted in accordance with the Work Plan to assure that Lockheed Martin is aggressively pursuing a feasible treatment alternative for perchlorate. In the interim, Lockheed Martin must expeditiously develop water supply agreements with the water purveyors.

If you have any questions, please contact me at (909) 782-3284, Robert L. Holub at (909) 782-3298 or Kamron Saremi at (909) 782-4303.

Sincerely,



Gerard J. Thibeault
Executive Officer

cc: City of Loma Linda, Mr. Gary Forth
City of Riverside, Ms. Zahra Panahi
Victoria Farms Mutual Water Co., Mr. Sean Bradley
The Gage Canal Company, Mr. Ross Lewis
City of Redlands, Mr. Michael Huffstutler
Norton Air Force Base, Mr. Thomas Bartol
USAWRA, Mr. Eugene McMeans
USEPA, Mr. Kevin Mayer
DHS-Division of Drinking Water, Ms. Toby Roy
DHS-Division of Drinking Water, Mr. Eric Fraser
USAF- Major Daniel E. Rogers
DOD-Lieutenant Colonel Jeff Grundtich

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